

Architecture schools past and present

Charlotte van Wijk

Institute of History of Art, Architecture and Urbanism, Faculty of Architecture, Delft University of Technology

The following excerpts were written during the summer of 2008, shortly after the building of the faculty of Architecture of the T.U. Delft was destroyed by fire. After the initial shock the wish arose within the I.H.A.A.U. (Institute of History of Art, Architecture and Urbanism) to make a contribution to the rebuilding of the faculty. It was decided that this would be done by providing the participants with reference material, which might contribute to informed and inspired entries to the competition.

A group of students dedicated itself to searching and researching the buildings of institutes of architectural education all over the world. Special attention was paid to the organization of education, and its relation to the functional organization of the schools. The aim of the project was to describe interesting and relatively unknown buildings. Unfortunately, in some cases that initially appeared promising, it turned out to be impossible to collect the required minimum of information in the short time available. An additional handicap was that the project had to be executed during the summer break, when staff and students at the institutes were mostly absent. However, the result is a series of very diverse buildings, from various periods, and it represents an interesting spectrum of approaches to architectural education. The concluding summaries below give an impression of the different buildings included in our research, and the rest of the material can be downloaded.

In order to enable an efficient start of the students' work the format of the analyses was based on an earlier research, executed by students of the department of Interiors, under the supervision of studio master Heike Loehmann, Dipl-Ing. During this project eight art schools were selected for their relevance, representing a variety of educational ideologies and their development. Among these were the École des Beaux Arts in Paris, the Bauakademie in Berlin and the Bauhaus in Dessau, but also the competition entry for the ZKM in Karlsruhe by OMA, and the new Design and Management School in Essen. At the time, the project was concluded with an exhibition of the work, including detailed models of each building, scale 1/200. Unfortunately, these models were lost in the fire, but the exhibition panels were saved. These panels, with both text and images, and photographs of the models made during the exhibition, will be also made available via the website www.loehmann.nl/site/news/index_news.htm.

Concluding summaries

Hochschule für Gestaltung, Ulm

Ulm School of Design

During a relatively short lifespan, the Hochschule für Gestaltung (HfG) in Ulm succeeded in producing an extensive and distinctive oeuvre. All the products of this school of design, ranging from research into ideal prefabricated building elements to the stackable porcelain service by Nick Roericht, share a common idiom. Their instantly recognizable character recalls the Bauhaus, the school on which the HfG was modelled especially in its early stages. Like the Bauhaus, the HfG started with a new building for approximately 150 students, and the architect and later Dean were one and the same person. In Dessau in 1925, this figure was Walter Gropius; in Ulm in 1950, it was Max Bill who won the commission for the design.

The building that Max Bill designed on the Kuhberg hill in Ulm expressed a new start. Its architecture was free of ideological associations and broke unmistakably with the empty rhetoric and monumentalism that had prevailed in Germany in the preceding years. The principles underlying the design of the building were clearly reflected in the education given there. The students were immersed on a daily basis in the ethos of the classrooms and workshops, so that the building was itself a pedagogic resource of inestimable value. The Grundkurs, the first-year foundation course, was a curricular component modelled on the Vorlehre taught at the Bauhaus. The student spent the remaining three years of the curriculum in one of the five departments, each of which occupied a separate area of the building. The spacious workshops were shared by all the departments and had a prominent location. Relatively few of the spaces in the building were dedicated to purely theoretical education – only a small auditorium and a few classrooms. Most of the teaching took place at the workbenches.

Although the building consisted of several separate volumes, it had an surprisingly unified character. The spaces for teaching, communal functions and accommodation were strung together, forming, as Bill himself put it, a 'concrete citadel'. It had a village-like integrity in which the students and lecturers lived and worked together. Despite the united atmosphere, however, the HfG underwent quite a few changes of direction during its 15-year existence. These were in many cases the outcome of internal differences of opinion. There was no change, however, in the school's emphasis on the design of everyday objects. The autonomy that HfG always aspired to and which gave it a unique place within the German educational system came at a high price. As a *Privatschule*, it could rely only on limited funding from the municipality, and a combination of political and financial strains forced the school to close down in 1968. Its curriculum was subsequently incorporated into the University of Stuttgart, but the former spirit of innovation and the sense of community were a thing of the past.

Faculdade de Arquitetura e Urbanismo (FAU), São Paulo

Faculty of Architecture and Urbanism, São Paulo

The Architecture and Urbanism Faculty of the University of São Paulo was founded in 1948 by a number of professors from the Escola Politecnica. The FAU grew during the 1960s to become Brazil's leading school of architecture. It has its own education system that distinguishes it from the purely technical and artistic education courses. The system was devised by the architect Joao Batista Vilanova Artigas, who considered the existing architectural education to be of unsatisfactory quality and too inflexible. He integrated several other disciplines such as urban design and industrial design into the curriculum. The graduates had to become representatives of innovation and development, capable of tackling the complex processes involved in the modernization of Brazil. As a result, the school played a very active part in the dialogue on the direction Modern Architecture was taking in Brazil. Besides devising the new education system, Vilanova Artigas designed a new building for the FAU in 1962.

The modernist style building is like a huge, rectangular concrete box resting on elegant columns. The internal spaces are covered by a gigantic roof that admits daylight through rectangular roof lights. The spaces are organized around a central hall that functions for the building in the same way as a public square does for a city. It is the scene of a varied activities and interaction between disciplines, a locus for debates as Artigas had intended: a building as a spatial metaphor for democracy. A succession of wide ramps crosses the building at the narrower end of the hall, forming a promenade and weaving the individual spaces into a continuous stream. Various functions are linked in a single fluid movement: the main auditorium, the models hall, the student association, the cafeteria, the museum, the library, the archives, the staff rooms, the open studios and the classrooms. All the functional space of the building communicate as open zones and eventually lead to the studios on the top floor of the building. The latter are the most private spaces, where the students can concentrate without distraction. A freedom to experiment and circulation within the building were departure points of Artigas' design concept.

With its current tally of 1,680 students and over 300 staff, the faculty has outgrown the building, making it necessary to build an extension. The extension, the LAME, is now complete. Its triangular volume is detached from the main building and contains a model workshop and various laboratories. The experimental character of the curriculum re-emerges in the Canteiro Experimental, a 'garden' for the LAME in which students can build their own structures and can conduct materials research. The LAME also comprises a photography/video laboratory, a museum and a fine art studio. In this respect aspects, which Artigas introduced in 1962 as educational innovations and as features of the building continue to make this school unique.

Technische Universität Berlin

Berlin Institute of Technology

A building designed specifically for architecture education: that was one of the departure points for the architect Bernhard Hermkes. It is visible in several respects in his design for the Architecture Faculty of the Berlin Institute of Technology. Both the horizontal and vertical circulation spaces are generous in scale. The additional space so created was designated by Hermkes as encounter space, with room for exhibitions. Contact between professors and students of the various departments was, in Hermkes view, an essential ingredient of the design. Exhibitions of work by students were one means of achieving this. The placing of large staircases with open light wells at the outer ends of the building provides a strong link between all the floors. This facilitates interaction throughout the building despite the large number of floors.

The character of the curriculum is also evident in the facade. An artifice was needed to create working spaces free of excessive solar radiation. Projecting facade panels, suspended at an angle from the east and west facades, provide substantial shading from the southern sun. This functional requirement would normally imply aligning the building differently, but the possibility was excluded by the urban situation. Differing floor-to-ceiling heights for the studios and offices are also expressed in the facade. Design choices related to the architectural education thus have a prominent effect on the appearance of the building.

The lower section of the complex was designed by Hans Scharoun. The ground floor has an open character and contains an entrance hall and exhibition gallery. The first floor is mainly occupied by offices and workplaces for students. The second floor was designed as a large drawing office but this is now used for the library. Scharoun was concerned about the interaction between the students and their surroundings. This is reflected in the orientation of the buildings and in the facade design.

The Institute of Architecture (formerly known as the Architecture Faculty) currently has 3,000 students. Initially, the building was intended to accommodate only 1,000. The Chairs of Urban Design and of Landscape Architecture were transferred to a separate faculty a few

years after completion of the building. This created more space for the Institute of Architecture. The 1969 building continues to provide an inspiring educational context and has proved adaptable to the rising number of students.

Faculteit Bouwkunde, TU Delft

Faculty of Architecture, Delft University of Technology

As an independent faculty of Delft University of Technology, the Architecture course dates back to 1901. The Architecture Faculty was housed from 1970 onwards in a building at Berlageweg 1, but a devastating fire on 13 May 2008 forced it to search new accommodation once more.

The competition to design the former building of the Architecture Faculty of what was then still called Delft Polytechnic was won by the firm of Van den Broek & Bakema in 1957. The competition brief specified a maximum of 700 students, but by the time the building was completed in 1970 the number had already more than doubled to about 1,650. The addition of mezzanine floors in the drawing studios provided an immediate enlargement of the building capacity. The number of students continued to rise over the years, eventually reaching over 3,200 by the time of the fire in 2008, along with 570 staff members. The building had proved flexible enough to cope with this growth, although the principle of every student working full-time in the faculty had long been abandoned. Part-time teaching had become the norm in recent years; lectures and tutoring took place in the faculty, while making designs and completing assignments were tasks students did principally at home. To sum up, the building had become too small and was forcing its users to make thrifty use of every inch of space.

The 1970 Architecture Faculty building was designed in the functionalist tradition. Van den Broek and Bakema analysed the spatial requirements and rendered them as architectural form. General functions occupied the first two floors, and each academic year was allotted its own two floors above this in the tower part of the building. This principle was also legible in the facade. The vertical volume had a strongly horizontal articulation with subtle nuances. The idea of the student moving up the building floor by floor as the study progressed was soon abandoned, however. Rooms for working and consultation became scattered randomly through the building, wherever space could be found.

Spaces for the general functions such as the auditorium, library, canteen and administrative offices, were designed as separate buildings ranged along an indoor street. Being a product of its era, the Architecture Faculty building was mainly constructed in concrete and this material was extensively exposed to view in the internal street. The appearance of the concrete was pleasing here, where it appeared in conjunction with large windows and infill panels. But the same concrete made a rather bleak, unfriendly impression where it was exposed in the tower interior.

Over the years, the building was much liked by the professors, staff and students. It was an important meeting place for those who were taking their first steps on the path towards a career in architecture, urban design, building engineering, building management or public housing. Many of them will look back to Van den Broek and Bakema's building with nostalgia. Hopefully the new accommodation will turn out to be a similar binding factor.

Harvard Graduate School of Design

The Harvard Graduate School of Design's Gund Hall has a turbulent background. The design attracted a barrage of criticism, which the architect rejected as due to ineffective handling of the process by the client. The studios in Gund Hall are arranged in a staircase-like succession of rising terraces beneath a glass roof. The design is a statement – all the disciplines under one roof – but it lacks the necessary practical grounding. Designed in accordance with ideological social theories, it disregards the mandates of everyday use. The ground floor was

conceived as a public street but this idea was abandoned in the course of the design process, raising questions about its relevance considering that the building is sited on the edge of the campus. Furthermore, the orientation of the studio 'staircase' is such that it is invisible from the road and that the studios have an unattractive view of the outside. The theory of flexible, multifunctional spaces is in some cases pushed too far for spaces that really need to be specific.

Viewed critically, the studio spaces seem to work well enough, apart from their climatization qualities. The users are satisfied with the layout of the personal working spaces, which offers a choice between a closed, or an open character. Besides, the view of others in a single, large studio has an inspiring effect. The future growth and fluctuation of the faculty can be accommodated to a certain extent within this concept. This is harder to achieve, however, in the facilitating shared spaces.

Every architecture school faces the problem of growth and adaptation in the future. When designing a new faculty, it is very important to make a clear distinction between flexible and non-flexible spaces. Which of them are multifunctional and which simply need extension in order to remain up to date? Different inputs from different users lead to answers which the client and the architect then have to forge into an integrated whole.

Ceské Vysoké Uení Technické (VUT), Fakulta architektury

Czech Technical University (CTU), Faculty of Architecture

The Architecture Faculty of the Czech Technical University in Prague shares a building with the Civil Engineering Faculty. The southwestern part of the complex belongs to the civil engineers and the northeastern part to the architects. These two volumes are connected by a low structure containing a large atrium surrounded by ten lecture halls. The atrium provides a connecting element and thus forms the core of the building, both in functional and ideological respects. Practically all the important public or semi-public functions, including the lifts to the tower blocks of the two faculties, are easily accessible from the atrium. The atrium also acts as an informal transitional zone where the students and lecturers of the two faculties may meet. This brings the two worlds that occupy this complex a little closer together – a desirable aim, considering the relatedness of the two disciplines.

The tall building containing the rooms and studio of the Architecture Faculty is not yet fully operational. The layout, spatial quality and materials give it a rather dated character with little functional flexibility. In combination with rising student numbers, this has motivated the development of a new building for the Architecture faculty. The design is ready, and within a few years the new complex will stand alongside the old building. The plans disclose a building that does not rely solely on a central atrium for its spatial quality.

Escola Técnica Superior de Arquitectura da Coruña

School of Architecture, Coruña

The Architecture Faculty of the University of La Coruña consists of two buildings on the Zapateira Campus a few kilometres outside the city centre. Students and staff generally travel to the university by car, turning the central open space of the campus into a huge car park. The faculty's main building has been in use since 1980, and a shortage of space made it necessary to add a new office department building in 1996. The move of the supporting departments created space for teaching, which was the old building's original purpose. The Architecture Faculty's central situation on the campus, adjoining the car parking field, gives it an almost monumental status like that of a town hall in a historic European city.

The main building has a robust, blocky look and is executed entirely in rough concrete; as such it is typical brutalist architecture. The construction is clearly legible in the exterior and has an important ordering function within the building. Four concrete service cores organize the building by means of the vertical circulation and a fixed location for the toilets on each

floor. These 'legs' support the teaching, so to speak. The latter takes place in the upper mass of the building, which cantilevers out over the stepwise-tapering lower section.

Pedro Barrié de la Maza established a fund in 1966 to promote culture and education in the Spanish region of Galicia. The Pedro Barrié de la Maza Fund facilitated the establishment of a new architecture faculty in La Coruña in 1973. It opened in 1975 as a faculty of the University of Santiago da Compostela. Following the death of Franco, the newly democratic Spain was divided up into autonomous regions. The University of La Coruña was established under Galician law in 1989. Two years later, the Pedro Barrié de la Maza Fund donated two buildings to the university, the Escuela Técnica Superior de Arquitectura (ETSAC) and Escuela Universitaria de Arquitectura Técnica (EUAT). They formed the initial core of the new university. Currently over 2,000 students study in the Architecture Faculty in La Coruña.

École d'Architecture Marne

Marne-la-Vallée School of Architecture

Bernard Tschumi was the architect chosen to design the School of Architecture in Marne-la-Vallée, France. He was the winner in an invited competition in which three architects participated. The final contest was solely between him and Portzamparc, the leading French architect at the time.

Tschumi was especially concerned not to make the building into a statement, like the Bauhaus for example. The resulting design is clearly aimed at giving space to education and not steering it along preconceived channels: 'However lovely the design is, it won't amount to anything without good teaching.' (Tschumi 1999)

Tschumi decided to give prominence to the formal concept and minimize the expressive role of the building materials. His concept for École d'Architecture Marne was that of an 'undefined space'. This was interpreted as a public space, or a circulation space, capable of enhancing interaction among students and fostering the exchange of knowledge and information between them. The building is formally designed as an 'architectural landscape' or 'architecture city', and forms a large promenade with several different starting points. Central to this is the main hall, which binds all the spaces and floors together. The auditorium is suspended in this as a separate volume. The studios look out onto the central hall, and the volumes containing the offices also communicate with the hall.

Only the first part of the design, with a capacity for 500 students, has been completed so far. A second part is planned for completion in the near future and will accommodate 1,200 students.

Arkitektur- og designhøgskolen i Oslo

Oslo School of Architecture and Design

The Oslo School of Architecture and Design (AHO) requested the Norwegian government for facilities to expand the capacity of the institute in 1966. The decisive motive for expansion was that the AHO was about to incorporate the Industrial Design Faculty, but the existing accommodation was in any case less than ideal for design education. It was decided to renovate a former transformer factory in the east of Oslo to house the school. The former factory on Maridalsveien was eminently suited for conversion because of its open concrete skeleton. Its 1930s brick architecture with large windows (designed by Oslo Byarkitektkontor v/Harald Eng.) was also to the taste of the AHO. These considerations, combined with the building's attractive situation on the green banks of the River Akerselva, were decisive in the selection of this location from among the twelve projects submitted.

The conversion of the factory into a design workshop has clearly been successful. The building retains its raw, industrial character, which is consistent with multifunctional use. The flexible spaces, including outdoor spaces, are easily fitted out and used for different applications. This results in a liveliness that is advantageous to the atmosphere for study and

work. The ground floor contains communal facilities such as the extensive workshops, the library, the drawing hall and the multifunctional single-floor auditorium. Each student has a private studio on the first floor where he or she can work until late in the evening. The building's open character stimulates informal contacts, and the students socialize eagerly in the outdoor spaces, the studios, the canteen, the hall and the pub.

The main difference from the former situation is not the mere quantity of floor space, but the opportunity for studying and working under one roof instead of scattered over four buildings. This is not to diminish the importance of the increased capacity to the school. There has been a growth both in the number of students (from 380 in 2001 to 509 in 2008) and an expansion of the academic programme. There was previously no room for research and the AHO had purely an educational function. Research is currently organized into separate 'institutes': the Institute of Architecture, the Institute of Urbanism and Landscape, the Institute of Industrial Design and the Institute of Form, Theory and History. In total these four institutes accommodate 20 PhD students. Seven years after delivery of the converted building, the maximum capacity has been reached. It is therefore very likely that the AHO will soon expand further by leasing the south wing of the complex from the state.

Technische Universiteit Eindhoven, Faculteit Bouwkunde

Eindhoven University of Technology, Architecture Faculty

The Architecture Faculty of Eindhoven University of Technology (TU/e) is housed in 'T-hoog', a former Chemistry Faculty building. The architect of the new architecture faculty building was selected through an invited competition. The jury opted for the design submitted by Bert Dirrix from the architecture firm *diederendirrix*.

The reuse of a laboratory building to house an Architecture Faculty is distinctive. The former Chemistry building was completely stripped. The new Architecture Faculty consists of two seamlessly joined volumes. On entry, the visitor is regaled to an impressive welcome by a huge hall, from which views into other parts of the building give a concept of the whole structure.

The deep plan of the old building (30 x 40 m) made it impossible to admit natural lighting to every part of the building, but the new fully glazed facade and the added atrium have considerably increased the quantity of available daylight. The exceptional height of the floors was also an unusual factor. Several of the high-ceilinged storeys have been divided by mezzanine floors to provide space for office functions; the offices themselves satisfy minimum height standards.

The functional plan assigns separate floors to students and to staff. One floor is reserved for graduation-year students. The ground floor and first floor contain the models workshop, the laboratory hall and the 'plaza'. The centralized accommodation of all the staff is functionally interesting. An improved contact between different specialist disciplines, as desired by the faculty, is both physically and visually inevitable. The offices are clustered around the huge atrium, which has been excavated into the structure. Occupants of the offices enjoy visual contact across the atrium with colleagues on the same and adjacent floors. The building's new name, *Vertigo*, is a reference to the exceptional height of the atrium. The *Vertigo* Building is a component of the first phase of the future TU/e Campus. Through this building, the architect demonstrates how a thoughtful conversion plan can result in an exceptional design.